

1/11

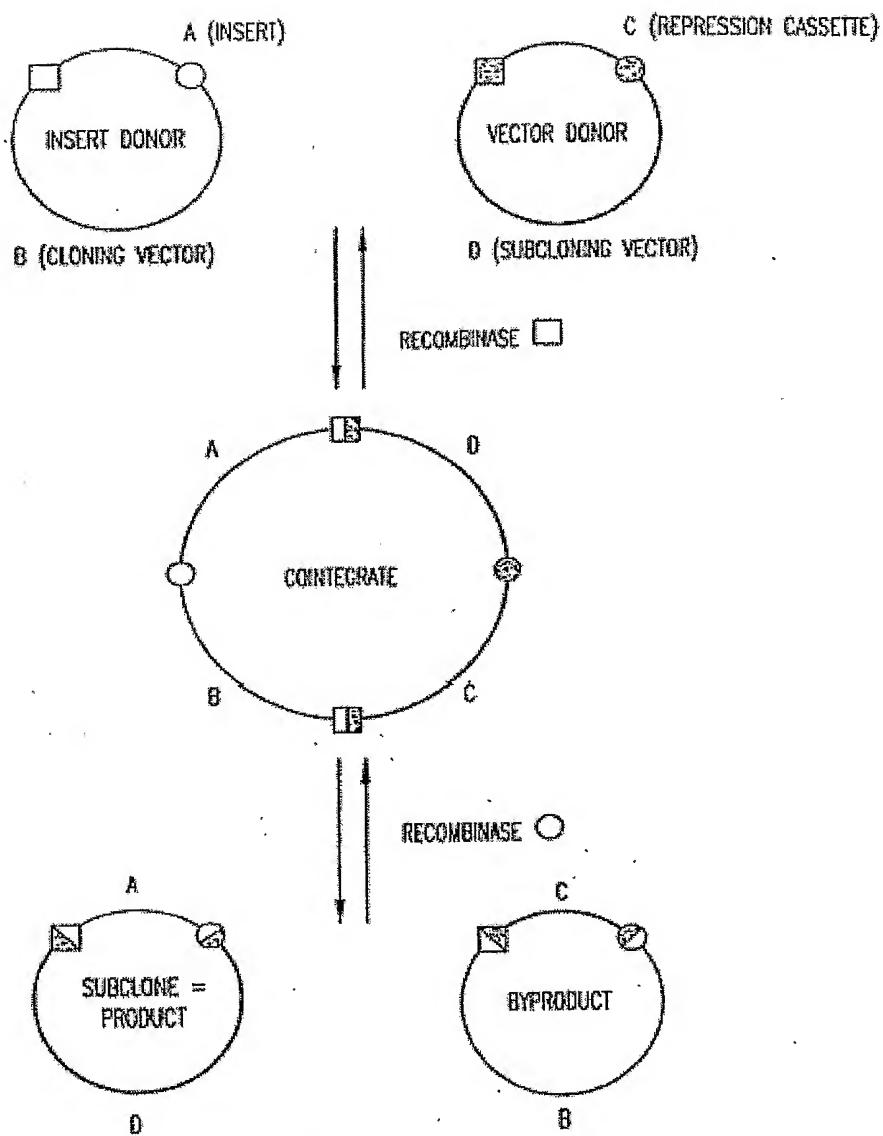


FIG.1

2/11

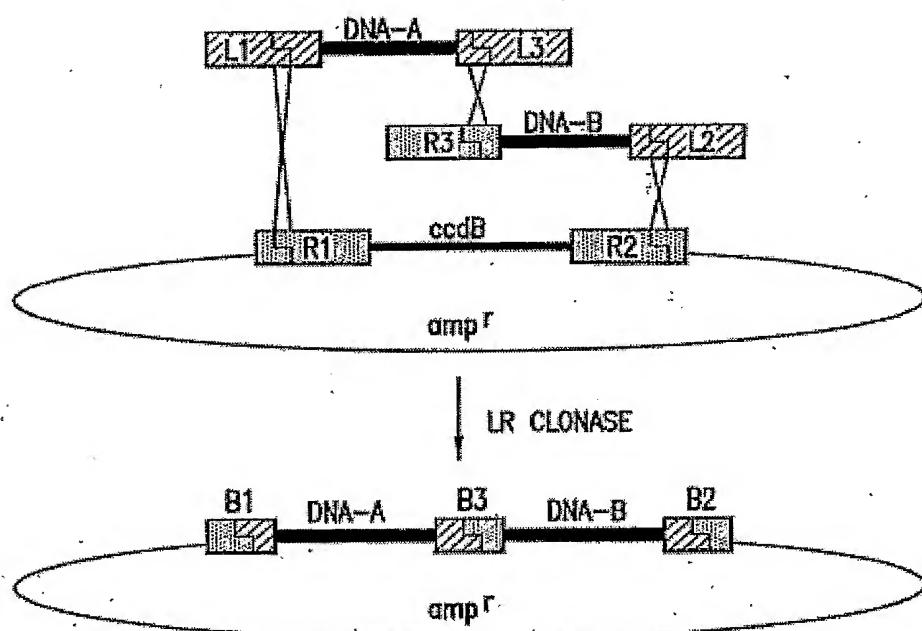


FIG.2

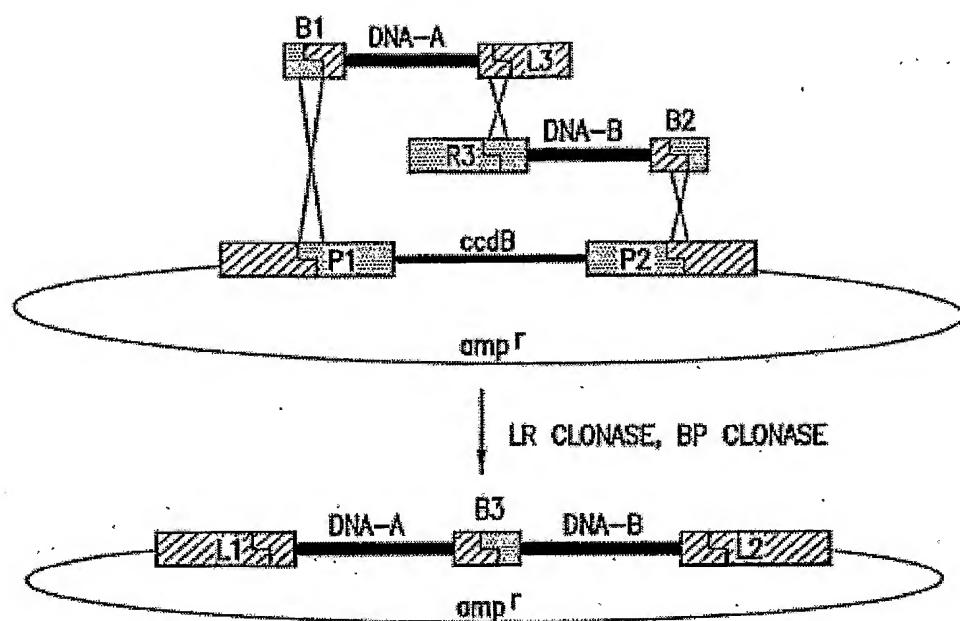


FIG.3

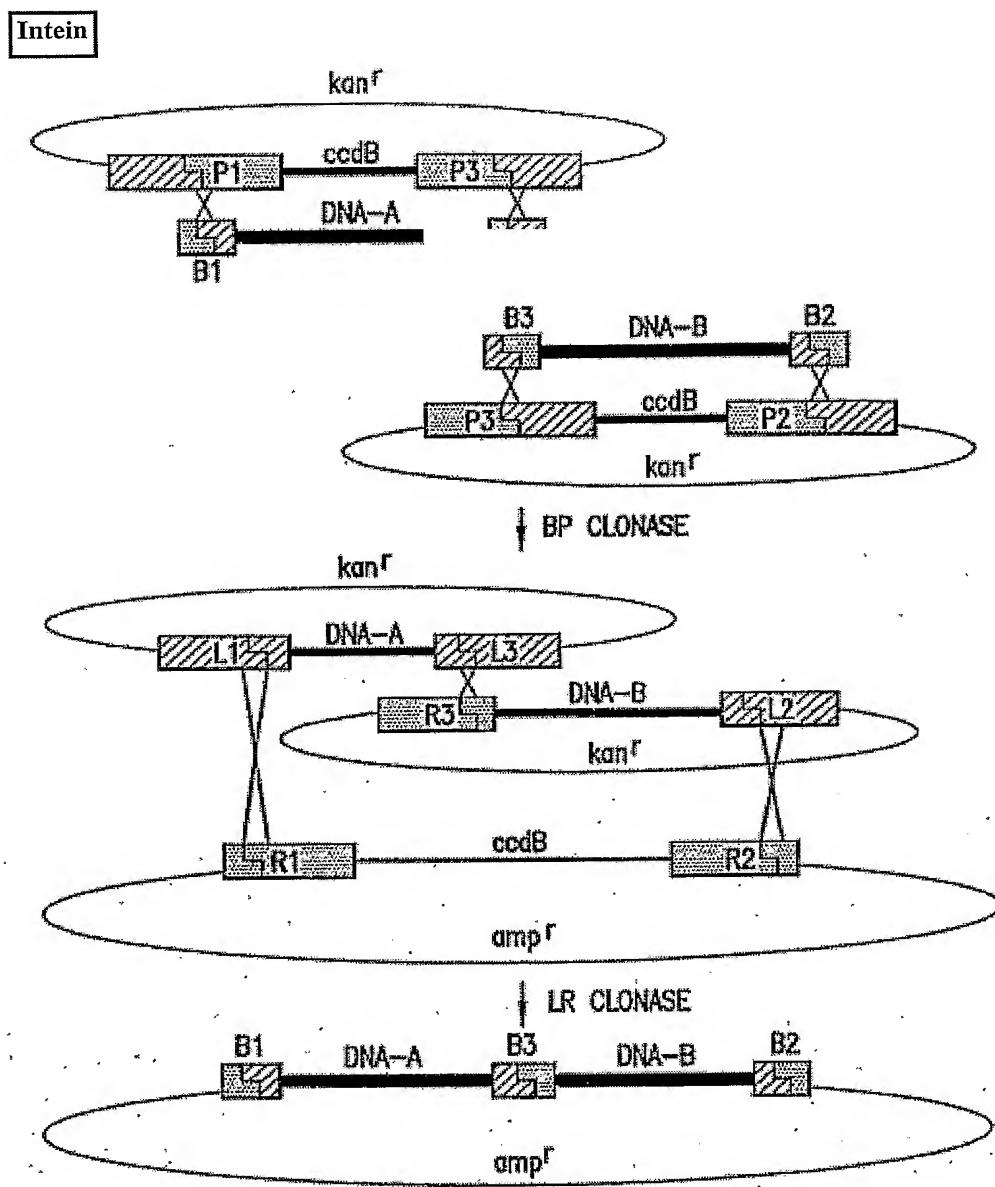
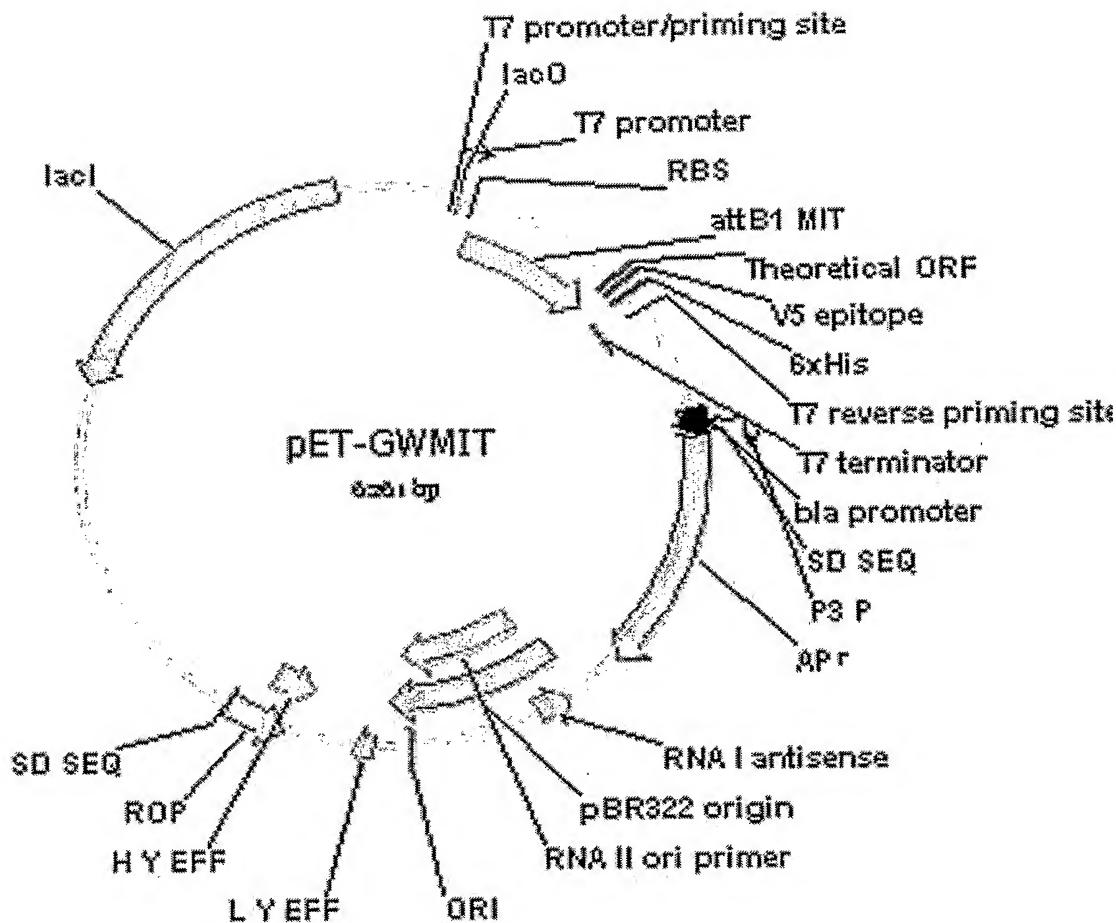
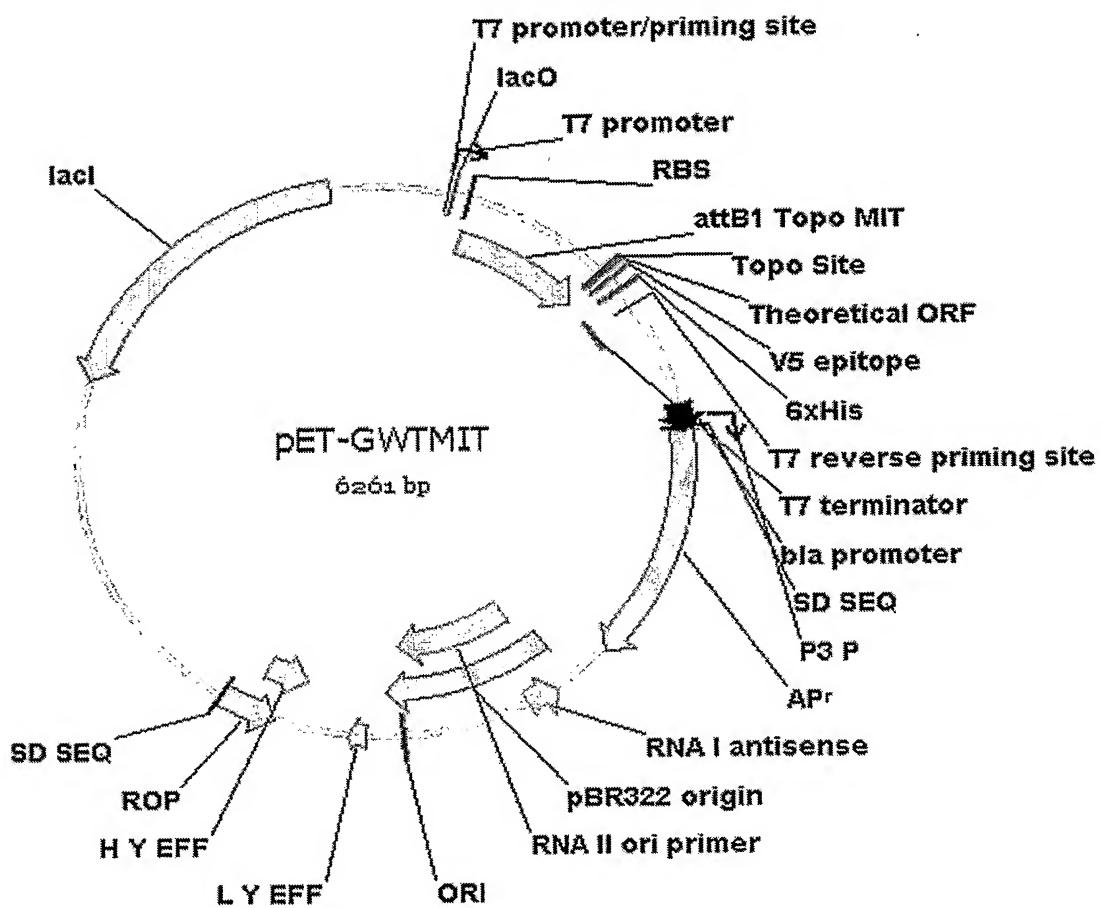


FIG.4

5/11

**FIG. 5**

**FIG. 6**

7/11

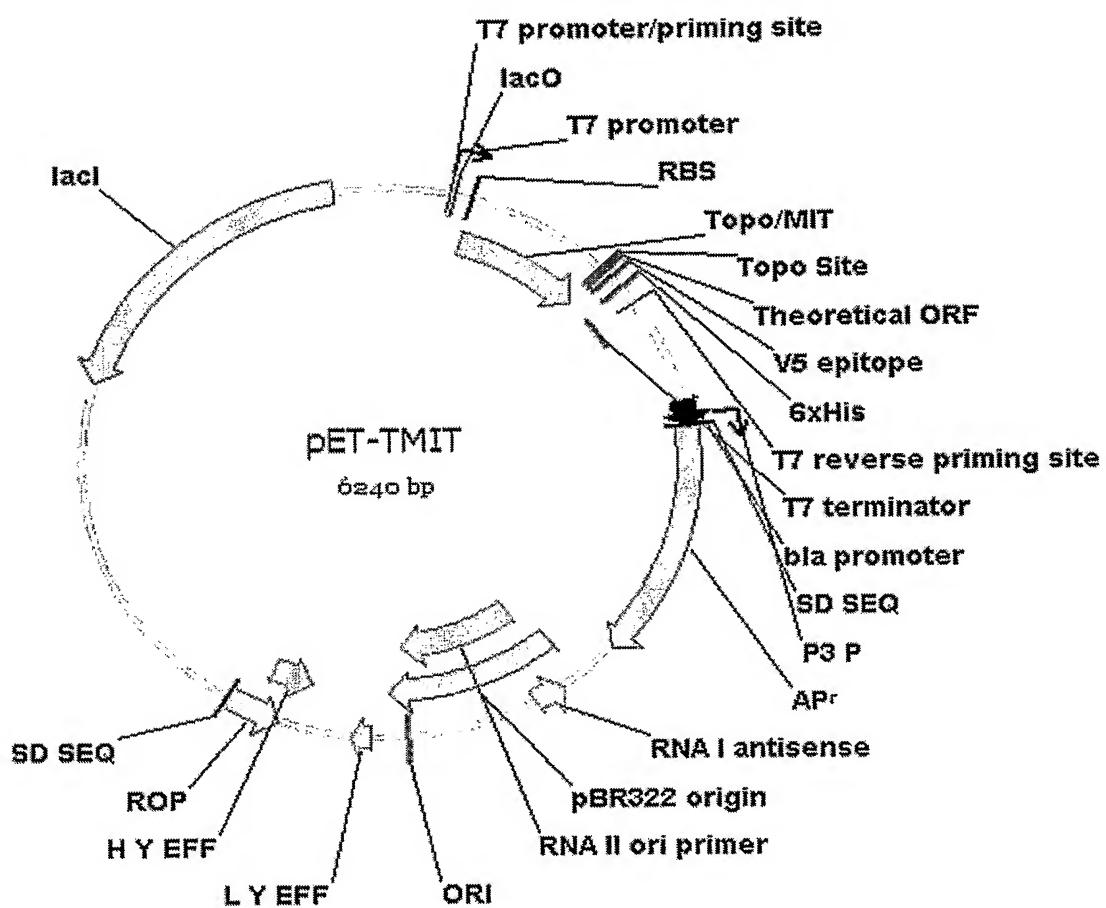


FIG. 7

Conserved C-terminus of the Intein

| Gene | N-Extein | Intein Sequence | C-Extein |
|-------------|-----------------|------------------------|------------------|
| Sce VMA | A I LYVG | CFAKGT -(454 AA)- | N QVVVHN CGERGN |
| Ctr VMA | V I I YVG | CFTKGT -(471 AA)- | N MALVHN CGERGN |
| Mtu recA | K VVKNK | CLAEGT -(440 AA)- | E GV VVHN CSPPFK |
| Mle recA | I GVMFG | CMNYST -(365 AA)- | D GV MVHN SPETTT |
| Tli pol I2 | K VLYAD | SVSGES -(390 AA)- | NN ILVHN TDGFYA |
| Tli pol I1 | I KLLAN | S ILPNE -(538 AA)- | G LLYAHN SYYGYM |
| Psp pol | I K I LAN | S ILPEE -(537 AA)- | G FLYAHN SYYGYY |

FIG. 8

Topo Intein Designs

Original Intein Coding Sequence → TS Coding Sequence →
GTT GTT GTA CAC AAC TGT ATG AAA CAA TAC
CAA CAA CAT GTG TTG ACA TAC TTT GTT ATG
Val Val Val His Asn Cys Met Lys Gln Tyr

"ALV Intein"
Topo Mutations
↓↓↓
GCC CTT GTA CAC AAC TGT ATG AAA CAA TAC
CTT GAA CAT GTG TTG ACA TAC TTT GTT ATG
Ala Leu Val His Asn Cys Met Lys Gln Tyr

"VLV Intein"
Topo Mutations
↑↑↑
GTC CTT GTA CAC AAC TGT ATG AAA CAA TAC
CAT GAA CAT GTG TTG ACA TAC TTT GTT ATG
Val Leu Val His Asn Cys Met Lys Gln Tyr

FIG. 9

Cleaving Rate Studies

(Cleaving at pH 7.0 for 0, 1, 2, 4, 8 and 22 hrs)

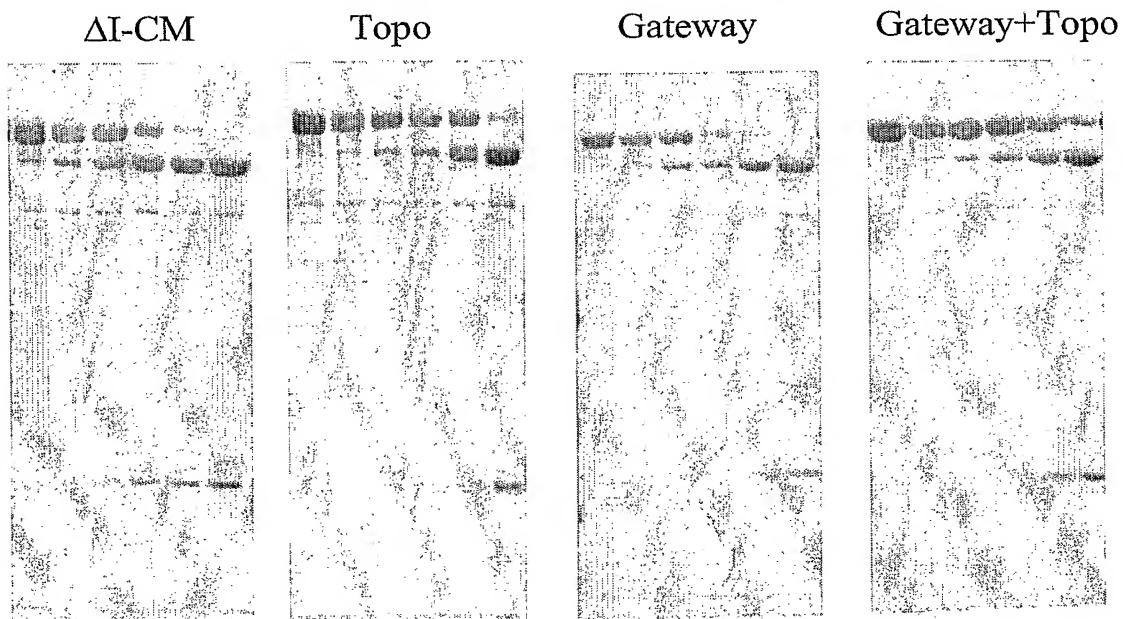


FIG. 10

11/11

Cleaving Rate Studies - Optimal pH

(Cleaving at 37°C)

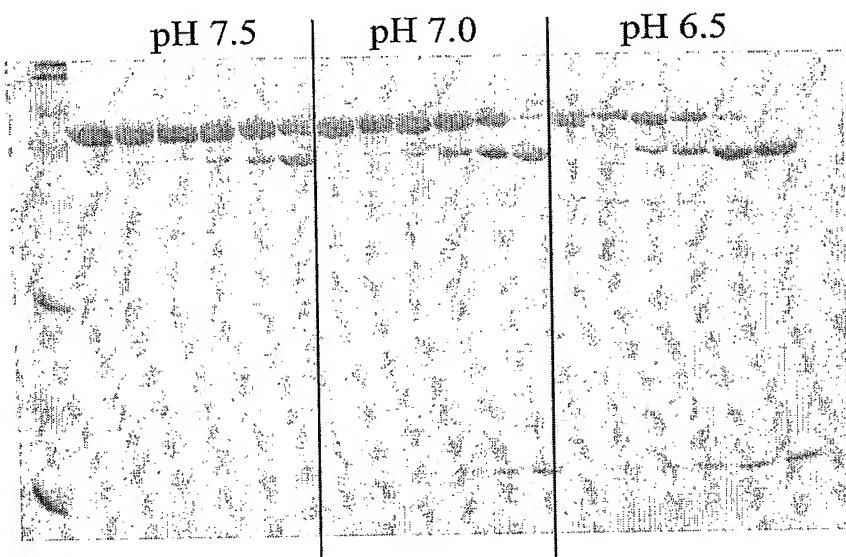


FIG. 11